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**ABSTRACT**

**4 Karanapaddhati: A Theoretical Guide-book for Preparing Karaṇa and Vākya texts Prof. M.S. Sriram, Madras University, Chennai**

Among the texts of Indian astronomy, the tantra texts express the astronomical results in systematic formulae with accessory information without any explanations, whereas the siddhānta texts give the detailed explanations for the procedures for the results in a theoretical framework. In contrast, the karaṇa texts have only direct computational algorithms, which are at times just arithmetical without even involving trigonometrical functions, with a recent date as the epoch. The vākya texts like Vākyakaraṇa, Sphuṭacandrāpti and Venvāroha do not even have algorithms, but just mnemonics or vākyas for finding the positions of celestial objects.

Karaṇapaddhati composed by the great Kerala astronomer Putumana Somayāji is a unique work, quite different from all the above categories. It is more like a manual for preparing the karaṇa and vākya texts, as it gives the paddhati (method) for them. It gives the basis for the method of vākyas for the planetary longitudes, by using the method of continued fractions for approximating the rates of revolutions pertaining to the planets, in terms of small multipliers and divisors. Computation of certain special dates called khaṇḍadina (when the ‘anomaly’ is zero) is also required in the vākya system. The algorithm for finding this is also given in the work. We explain some of these essential features of this work in this presentation.